

SKADDEN, ARPS, SLATE, MEAGHER & FLOM
(ILLINOIS)

333 WEST WACKER DRIVE
CHICAGO, ILLINOIS 60606-1285

TEL: (312) 407-0700
FAX: (312) 407-0411

0646

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June 13, 1997

William F. Canton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, DC 20554

Re: Sensormatic Electronics Corporation's
Statement of Opposition to Petition
for Rulemaking; RM-9094

RM-9092

Dear Mr. Canton:

On behalf of Sensormatic Electronics Corporation, I have enclosed an original and two copies of the Statement of Opposition to Petition for Rulemaking in the above-referenced docket.

Please stamp and return a copy of this filing in the enclosed return envelope. If you have any questions, please call me at (312) 407-0646.

Respectfully submitted,



Arthur W. Bresnahan
Counsel for Sensormatic
Electronics Corporation

Encl.

cc: Richard M. Smith, OET (2 copies)
John Reed, Technical Rules Branch
Information Office
Margaret L. Tobey & Phuong N. Pham (attorneys for
Checkpoint Systems, Inc.)

Sensormatic is a major manufacturer of devices operating under the Part 15 rules in the United States and has extensive experience with foreign and international standards regarding such devices. In particular, Sensormatic has sold, installed and maintains for customers (retail stores) electronic article surveillance ("EAS") systems operating in various frequency bands, including numerous systems in the 1.705-30 MHz band which

are likely to be impaired by interference from the rule change requested by Checkpoint.

Checkpoint's Petition requests that the Commission initiate a rulemaking proceeding to amend its rules to permit Checkpoint to increase the operation of its EAS systems in the 1.705-30 MHz band to a maximum radiated emission level of 1000 microvolts/meter measured at 30 meters and at a maximum conducted emission level of 3000 microvolts. The current emission limits for Part 15 devices measured at 30 meters are 100 microvolts/meter in the 1.705-10 MHz band and 30 microvolts/meter in the 10-20 MHz band. 47 C.F.R. §§ 15.209, 15.223.

Checkpoint's argument for this huge, ten-times (or more), power increase is based on its assertions that it (a) will not cause harmful interference to other users; (b) will be in accordance with the Commission's "harmonization" policy regarding international and foreign standards; and (c) is necessary to allow EAS systems that meet the needs of warehouses and distribution centers.

Checkpoint's argument is incorrect on all three points. First, increases in the power of unlicensed intentional radiators in this band would likely cause a surge of interference problems for licensed radio servic-

es as well as other unlicensed devices. Second, the requested change to the Commission's rules would be against the current trend of foreign national and international regulatory authorities and would thus be contrary to the Commission's harmonization policy. Finally, there are EAS products on the market operating under the existing emission limits, and others can be developed consistent with current rules, which are able to meet the needs of warehouses and distribution centers without upsetting the balance that the Commission created when it adopted its current Part 15 rules.

Checkpoint's request to boost the power limits throughout the 1.705 to 30 MHz band by at least ten times is contrary to the Commission's policies and the public interest. Accordingly, the Commission should deny Checkpoint's Petition pursuant to 47 C.F.R. § 1.407.

II. Checkpoint's Request is Contrary to the Commission's Policies and the Public Interest.

A. Power Limit Increases Would Harm Licensed Radio Services as Well as Other Part 15 Devices.

The Commission already considered the interests of users of various services and devices operating in the 1.705-30 MHz band when it adopted its comprehensive revision of the Part 15 rules in 1989. See Revision of Part 15 of the Rules Regarding the Operation of Radio

Frequency Devices Without an Individual License, 4 FCC Rcd. 3493 (1989) ("Part 15 Revision"). In formulating its revised rules, the Commission considered comments from over 300 interested parties before it adopted appropriate limits for Part 15 devices in this band and other bands. Id. at 3494. These comments included those from government (including the NTIA and FAA) and private users (licensed and unlicensed) of the frequency band between 1.705-30 MHz, id. at 3496, 3502; many of the users were concerned that increases in the allowed power levels for Part 15 devices in this band could cause interference with licensed operations. Id. at 3495-3497.

The Commission acknowledged that the interference potential of Part 15 devices below 30 MHz is controlled principally by the limit the Commission placed on conducted emissions. Id. Although the Commission considered whether to adopt higher power limits, id. at 3496, the Commission re-codified the maximum radiated emission levels that existed at the time, striking a balance that has continued in the years since that revision.

Checkpoint asserts that changes in technology have made it possible to reduce the risk of harmful interference to other licensed and unlicensed users

caused by EAS systems. See Pet. at 7. However, Checkpoint offers no examples of such changes and no evidence that such risk has actually been reduced.

To the contrary, Checkpoint's request is premised on the argument that increasing levels of ambient noise from fluorescent lighting, air conditioning, elevators and cash registers in commercial establishments "threaten to impair the continued usefulness" of its EAS systems. Pet. at 9. Again, Checkpoint offers no proof of such increased levels of ambient noise. In any event, as Checkpoint states, the Commission already considered these same factors in specifying power levels for EAS devices in this band both twenty and eight years ago. Id. (citing Amendment of Part 15 to Provide for the Operation of Wide-Band Swept RF Equipment Used as Anti-Pilferage Devices, 65 FCC 2d 802, 804 (1977)).

Furthermore, the fact that there are more devices emitting RF energy means that an allowed power increase for certain devices as requested by Checkpoint would only increase the overall level of noise in the band to the detriment of licensed users and other Part 15 devices. Requests for power increases from other users and manufacturers will soon follow. This was precisely the stated concern of many users of authorized services

in the Commission's 1989 rulemaking. See Part 15 Revision at 3497 (Amateur Radio Service operators and listeners to international (shortwave) radio broadcasts stating that proliferation of Part 15 devices was a substantial source of harmful interference), 3502 (GE, Allen-Bradley, and the FAA particularly concerned regarding Part 15 devices in ISM bands), 3503 (Rockwell and Aerospace & Flight Test Radio Coordinating Council concerned regarding Part 15 devices in aeronautical flight test voice communications frequencies).

For example, Checkpoint's higher-powered systems are likely to interfere with and impair the installed base of EAS systems from Sensormatic using this band. In a mall, for example, one store's Sensormatic EAS system using this band may be only a few feet away from another store's higher-powered Checkpoint EAS system. By potentially impairing some of Sensormatic's existing EAS systems, the ten-times (or more) boost in power requested by Checkpoint may cut rather than add to the benefits of EAS systems to some customers.

Checkpoint states that its experimental use of certain portions of this band at higher power levels than those allowed under the rules has not caused other parties to complain to it regarding interference. Pet. at

16. However, Checkpoint's limited experience from such experimental use does not provide adequate record evidence for dismissing concerns that Checkpoint's systems will cause harmful interference to licensed and other unlicensed users.

Some of the licensed government uses of this spectrum involve disaster and emergency backup communications which by their nature are not in widespread operation at any given time in any given area. See 47 C.F.R. § 2.106 (table of allocations). Accordingly, interference that would result from operation of Part 15 devices at higher power levels might not be detected until the disaster or emergency backup system is put into use. Of course, it would then be too late to correct the interference that Checkpoint's systems could cause to these critical licensed applications.

Authorized government and non-government uses of this band include aeronautical mobile, amateur, amateur-satellite, broadcasting, fixed, fixed mobile, land mobile, maritime mobile, mobile (distress and calling), radio astronomy and radiolocation. Id. The substantial government use of this band means that the proposed power increase, which would necessarily tend to cause interference to government station operation, should be referred

to the Independent Radio Advisory Committee for coordination. See NTIA, Manual of Regulations & Procedures for Federal Radio Frequency Management, Rule 8.3.1 (January/May 1996) (summarizing 1940 agreement between FCC and NTIA).

In short, allowing EAS devices to operate in the 1.705-30 MHz band with increased power would create a substantial likelihood of increased interference to licensed and unlicensed users in this band. The Commission has already carefully considered the interests of all users of this band, and Checkpoint has offered no reliable evidence that should prompt a reconsideration of the current balance.

B. A Change to the Current Rules Would Go Against Commission Policy on Harmonization.

In its Petition, Checkpoint argues that its request for a rulemaking to amend Part 15 is necessary to "harmonize" the Commission's rules with those adopted in Europe. Checkpoint cites an interim standard adopted by the European Telecommunications Standards Institute ("ETSI") for low-power radio frequency devices operating on frequency levels between 4.78 and 30 MHz. Pet. at 10. This temporary ETSI radiated emission standard is approximately 1000 microvolts/meter measured at 30 meters. Id.

Checkpoint fails to acknowledge that no national regulatory authority has actually adopted this temporary standard. Furthermore, in part due to concerns expressed by a number of PTTs in major European countries regarding the unduly high limits in ETSI's temporary standard, ETSI is currently formulating a final standard that is substantially in accordance with the Commission's current allowed power increases. See ETSI Working Draft at 22 and 39 (attached hereto as EXHIBIT A).

Obviously, the Commission's policy and Checkpoint's argument for harmonization would not be served if the Commission revises its limits to accommodate a higher temporary ETSI standard while ETSI adopts a final standard similar to that of the Commission's current (and more reasonable) limits.

Checkpoint argues that manufacturers of anti-theft devices in the United States have a competitive disadvantage caused by a disparity between the authorized emission levels of the United States and other countries. Pet. at 11.

In this discussion regarding foreign competition, Checkpoint neglects to acknowledge three points: (1) as already noted, ETSI has indicated that its final standard is likely to be similar to the emission limits

set by the Commission, and other national regulatory authorities support such limits and oppose Checkpoint's proposed power levels; (2) it is not clear how disparities in standards advantage or disadvantage manufacturers of products for different national markets around the world; and (3) such concerns, if given any weight by the Commission, simply cannot justify imposing burdens of any greater interference on other licensed and unlicensed users of this band in the United States.

The international playing field for anti-theft products may indeed become more "level," but at the Commission's current power limits rather than those proposed by Checkpoint. Then, it will likely be the manufacturers in the United States whose products comply with the current domestic standards that have any advantage, not manufacturers that are hoping for higher power limits in an already crowded band.

C. Other Factual Errors in Checkpoint's Petition Undercut Checkpoint's Argument for Increasing Power Limits.

In its Petition, Checkpoint claims that warehouses and distribution centers presently are unable to enjoy use of an effective anti-theft system. Pet. at 8. This statement to the Commission is contrary to Checkpoint's claims in the marketplace to potential cus-

tomers that it already has an EAS product suitable for use by warehouses and distribution centers. Also, other EAS products under the current Part 15 rules are available for use by warehouses and distribution centers to keep track of their large-sized inventory. These systems have been developed at power levels and in bands which have enabled co-existence with licensed and other unlicensed spectrum users. Moreover, new EAS products are being developed consistent with existing emission limits for a wide range of uses, including the needs described by Checkpoint.

Checkpoint emphasizes that an increase in the radiated and conducted emission limits for its EAS equipment is necessary to enable it to offer "new technology that better serves the specific needs of retail stores and other commercial establishments." Pet. at 7. Yet, Checkpoint does not cite any examples of this "new technology."

It appears that Checkpoint merely seeks to make existing products operate with higher power limits, which will then affect coverage area and tag size. This could have been done in 1977, if the Commission had been willing to tolerate the additional interference to other licensed and unlicensed devices. Many manufacturers of a

variety of products would, like Checkpoint, wish for a higher permissible power level in order to expand the scope of their products using old technologies. Yet, such expansion of capabilities merely through higher power causes greater interference. A true technological advance would be for Checkpoint to design an anti-theft system that allowed for wider gates or smaller tags and operated within the allowed emission limits. Checkpoint attempts to achieve through regulatory change and at the expense of licensed and other unlicensed users what it has been unable to achieve in the laboratory and real-world operating conditions.

Checkpoint's Petition is also misleading when it claims that an increase in allowable power levels is necessary to allow for new technology. Raising the allowable power level limits by at least ten times would, instead, hamper developments in new technology by taking away the incentive to design new EAS products that function within the current emission standards, and by impeding use of this spectrum by other devices.

III. Conclusion

The ten-times or more higher power limits requested by Checkpoint will cause interference problems with licensed radio services and other Part 15 devices; go against the Commission's harmonization policies; and be unnecessary to satisfy consumer demands. The Commission's policies and the public interest require that the Commission maintain its rules for emissions in this band. For the foregoing reasons, Sensormatic requests that the Commission deny Checkpoint's Petition for Rulemaking to amend Part 15.

Respectfully submitted,

Sensormatic Electronics
Company, Inc.



Warren G. Lavey
Arthur W. Bresnahan

SKADDEN, ARPS, SLATE,
MEAGHER & FLOM
333 West Wacker Drive
Chicago, IL 60606
(312) 407-0830

Attorneys for Sensormatic
Electronics Company, Inc.

Dated: June 13, 1997

EXHIBIT A

Source: ETSI TC-RES

Reference: RE/RES-08-0108

ICS: 33.060, 33.060.20

Key words: Inductive systems, short range devices, testing

Radio Equipment and Systems (RES);
Short Range Devices (SRDs)
Technical characteristics and test methods
for radio equipment in the frequency range 9 kHz to 25 MHz
and Inductive loop systems in the frequency range
9 kHz to 30 MHz

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=etsi, p=etsi, s=secretariat - Internet: secretariat@etsi.fr

Tel.: +33 4 92 94 42 00 - Fax +33 4 93 96 47 16

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Foreword

This European Telecommunication Standard (ETS) has been prepared by the Radio Equipment and Systems (RES) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is intended to become a harmonised EMC Standard together with the Standard ETS 300 883, which is intended to be published in the Official Journal of the European Community referencing the Council Directive 89/336/EEC Council Directive on the approximation of the laws of the member States relating to electromagnetic compatibility ("the EMC Directive").

The technical parameters which are relevant to the EMC Directive are listed in normative annex J.

Proposed announcement date	
Date of latest announcement of this ETS (dos):	3 months after publication

Introduction

This ETS contains the technical characteristics for radio equipment referencing CEPT/ERC Decisions and Recommendations, including T/R 01-06 [1] and [ERC XX - XX].

This ETS is drafted on the assumption that type test measurements, performed in an accredited test laboratory will be accepted by the various National Regulatory authorities in order to grant type approval, provided the National regulatory requirements are met. This is in compliance with CEPT Recommendation T/R 01-06 [1].

Included are methods of measurement for equipment, such as inductive loop systems, fitted with antenna connector and/or integral antennas. Equipment designed for use with an integral antenna may be supplied with a temporary or permanent internal connector for the purpose of testing, providing the characteristics being measured are not expected to be affected.

If equipment, which is available on the market, is required to be checked it should be tested in accordance with the methods of measurement specified in this ETS.

Clauses 1 and 3 provide a general description on the types of equipment covered by this ETS and the definitions and abbreviations used. Clause 4 provides as a guide the number of samples required in order that type tests may be carried out and any markings on the equipment which the applicant shall provide.

Clause 9 gives the maximum measurement uncertainty values.

Annex A provides normative specifications concerning radiated measurements.

Annexes B through E are graphical representations of RF carrier current limits, H- and E-field strength carrier limits and spurious emission limits.

Annex F is normative describing the calculation for customised antennas.

Annexes G and H are informative annexes describing E-fields, and test fixtures.

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1 Scope

This ETS is a generic standard for the frequency band 9 kHz to 26 MHz for radio equipment and 9 kHz to 30 MHz for inductive loop systems, which may be superseded by specific standards covering specific applications.

This ETS is based on ERC Recommendation for Short Range Devices [ERC XX-XX] [2].

This ETS covers the minimum characteristics considered necessary in order to make the best use of the available frequencies.

This ETS does not necessarily include all the characteristics which may be required by a user, nor does it necessarily represent the optimum performance achievable.

This ETS applies to Short Range Devices:

- inductive loop systems;
- with an antenna connection and/or with an integral antenna;
- for alarms, identification systems, telecommand, telemetry, etc., applications;
- with or without speech.

All types of modulation for radio devices are covered by this ETS.

This ETS covers fixed stations, mobile stations and portable stations. If the system includes transponders, these will be measured together with the transmitter.

Three types of measuring methods are defined in this ETS due to the varied nature of the types of equipment used in this band. One method measures the RF carrier current, an other measures the radiated H-field and the last the conducted power.

CEPT/ERC Recommendation ERC XX-XX [2], on Short Range Devices (SRD's) using an integral antenna, mentions in the frequency range 9 kHz to 30 MHz three ISM frequency bands, 6,765 to 6,795 MHz, 13,553 to 13,567 MHz and 26,957 MHz to 27,283 MHz, with a field strength limit of 42 dB μ A/m measured at 10 m).

On non-harmonised parameters, national administrations may impose conditions on the type of modulation, channel/frequency separations, maximum transmitter output power/effective radiated power, equipment marking and the inclusion of an automatic transmitter shut-off facility, as a condition for the issue of an individual or general licence, or as a condition for use under licence exemption.

This ETS covers requirements for radiated emissions below 30 MHz.

Additional standards or specifications may be required for equipment such as that intended for connection to the Public Switched Telephone Network (PSTN).

2 Normative references

This ETS incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.